

North American Land Surface Albedo and Nearshore Shallow-Bottom Properties from Landsat and MODIS/VIIRS

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<http://www.umb.edu/spectralmass>

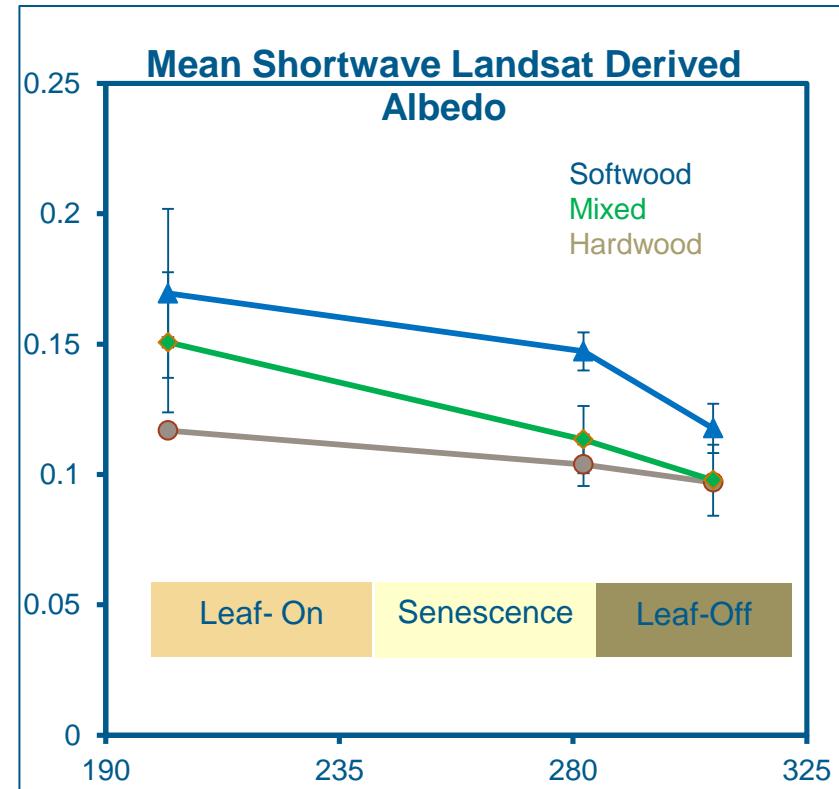
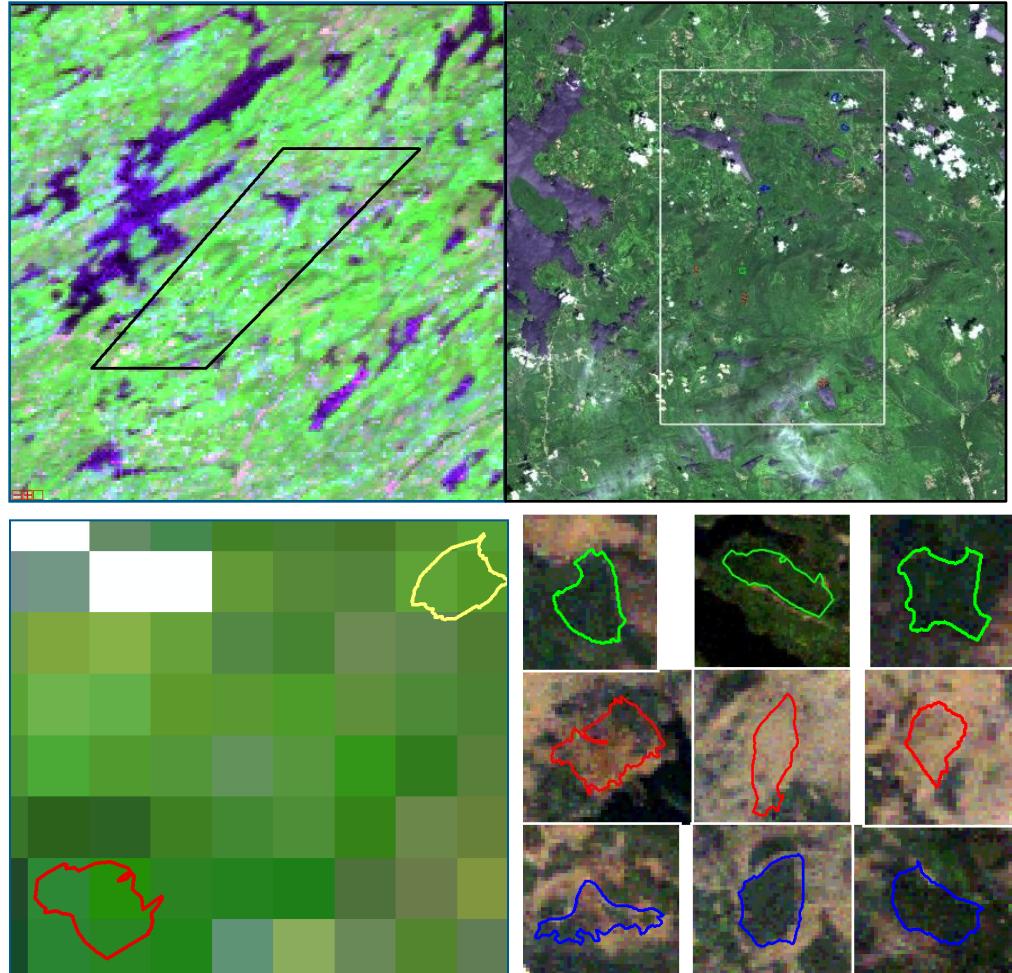
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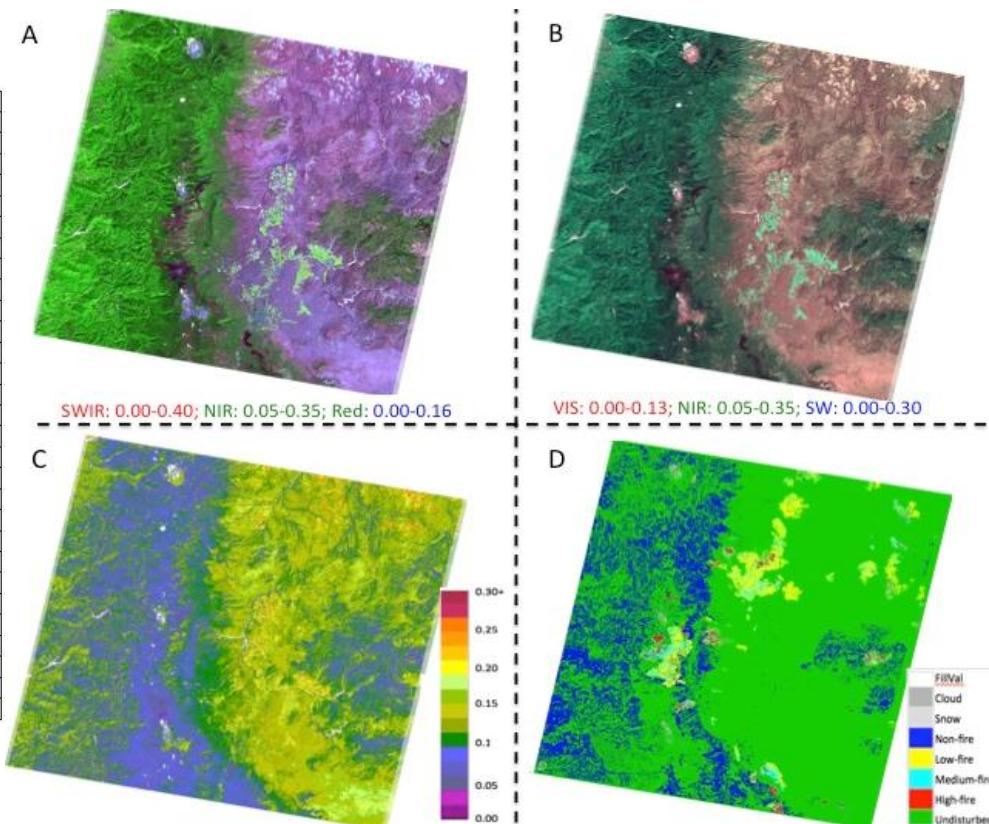
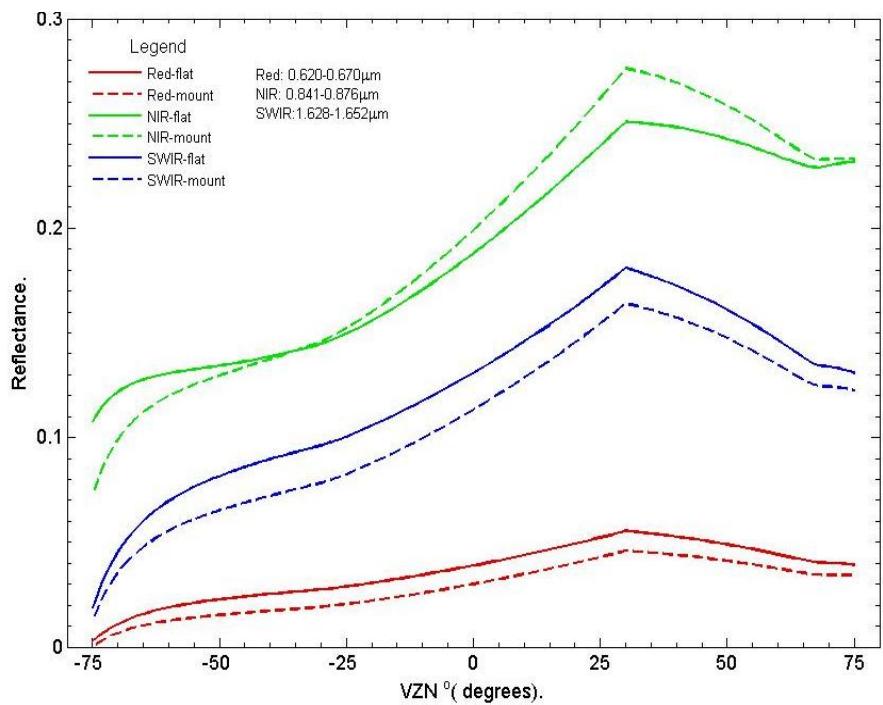
Landsat Albedo

Concurrent approach (Shuai et al., 2011) links similar locations between MODIS and Landsat to assign BRDFs to Landsat pixels. Here forest management practices in the Maine are investigated.



Landsat Albedo – Historic Approach

Shuai, Y., J.G. Masek, F. Gao, C. Schaaf, T. He, An approach for the long-term 30-m land surface snow-free albedo retrieval from historic Landsat surface reflectance and MODIS-based *a priori* anisotropy knowledge, Remote Sensing Environ., 2014.



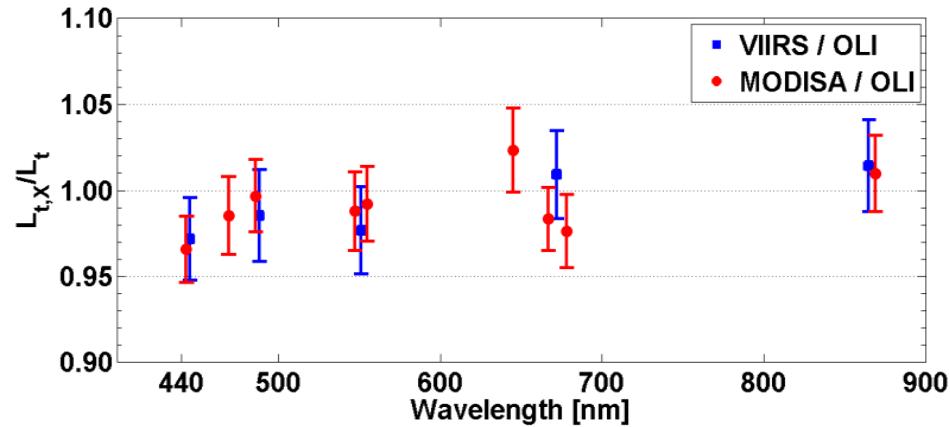
BRDFs for non-disturbed evergreen on slopes of < or > 15° NIR (upper), SWIR (middle), Red (lower)

undisturbed, fire-disturbed, non-fire, severity, slope, time since disturbance, date

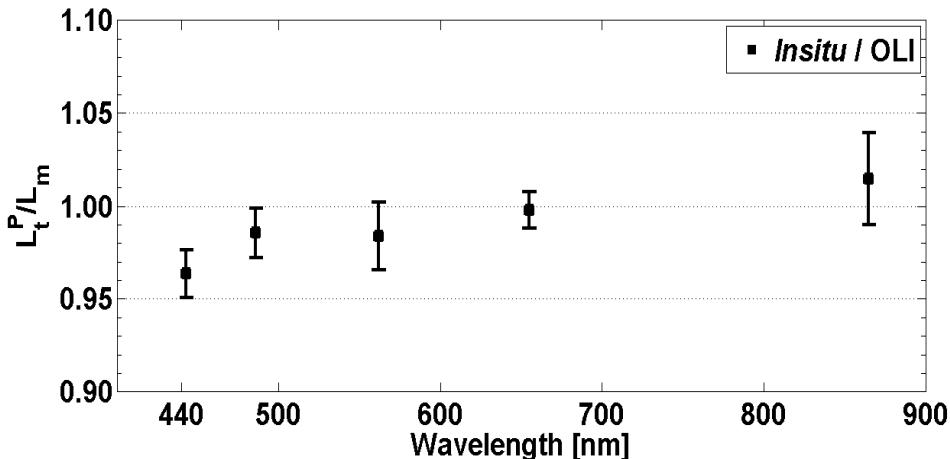
Central Oregon 8/29/2007 A. Landsat BSA 5,4,3 B. Broadband Landsat BSA (vis, NIR, broad) C. Broadband BSA D. QA

OLI over coastal waters

Pahlevan, N., Z. Lee, J. Wei, C. Schaaf, J. Schott, On-Orbit Radiometric Characterization of OLI (Landsat 8) for Applications in Aquatic Remote Sensing, *Remote Sensing Environ.*, 2014



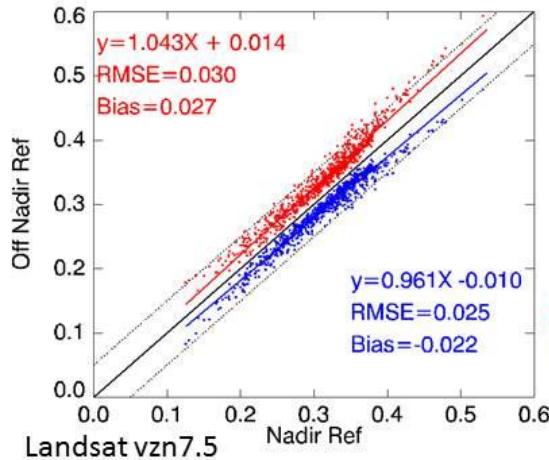
OLI Bands	CA (443)	Blue (482)	Green (562)	Red (655)	NIR (865)
Radiance	0.963	0.987	0.985	0.997	1.013
Reflectance	0.998	0.987	0.978	1.013	1.000



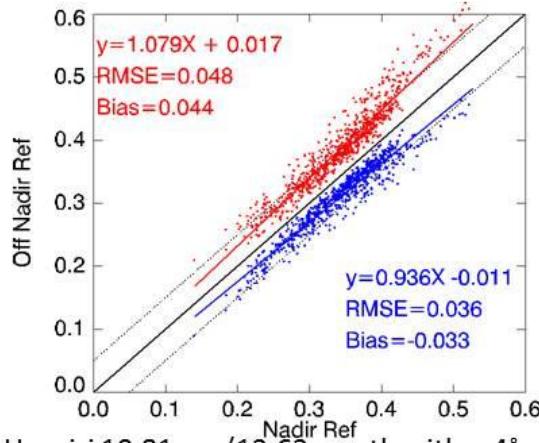
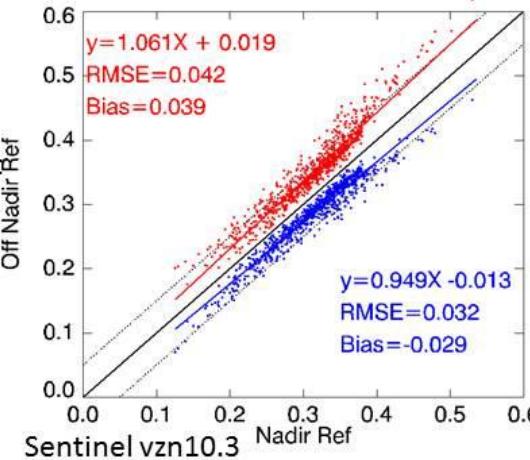
Nima Pahlevan now at Goddard
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Angular variations

Cloud Absorption Radiometer (CAR) for BRDF simulation and validation (Román, Gatebe)



Using multiangle CAR data over Harvard Forest (szn 45, NIR channel, 60m spatial, hotspot, forward)



Hypsri 10.81vzn (13.62 swath with a 4° offset)

